

REMARKS

Claims 1-23 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Applicants traverse the rejection of Claims 1-5 and 8 under 35 U.S.C. § 103 as being anticipated by Kliman et al. in view of Applicant's Admitted Prior Art (APA) and further in view of Nishiyama et al.

Applicants incorporate the arguments set forth in the Response Filed on August 22, 2003.

Applicants provided several analogous teachings as those set forth by the Examiner and also established that there is a longstanding problem in the art – namely the problem of implementing sensorless rotor position sensing in switched reluctance machines. The references that were cited by the Examiner identify additional longstanding problems. Namely, the prior art of switched reluctance motors has been attempting to increase the slot fill of switched reluctance motors. McCann cites the problem of increasing slot fill in switched reluctance machines. The problem of increasing slot fill is also recognized by Ackerman. Neither propose segmenting the salient pole stator of the switched reluctance machine.

Applicants also traverse the rejection of Claims 9-13, 16-19, 22 and 23 under 35 U.S.C. § 103 as being anticipated by Kliman et al. in view of Applicant's Admitted Prior Art (APA) and further in view of Nishiyama et al, McCann and Ackermann.

Applicants incorporate the arguments set forth in the Response Filed on August 22, 2003.

McCann discloses a switched reluctance motor with a non-segmented stator. Applicants agree with the Examiner that McCann addresses the problem of increasing the slot fill. McCann, however, does not show, teach or suggest segmenting the stator to increase the slot fill. Therefore, because McCann uses a non-segmented stator, McCann is limited by the known winding techniques to less than 65% slot fill for switched reluctance machines.

The Examiner has also mischaracterized the relevant portions of Ackerman. "Ackerman further discloses the benefits and desirability of high slot fills, and discloses that motor slot fills approaching 70% are common (Col. 2, line 16)." Final Office Action at p2. At best, this argument is a mischaracterization of the relevant passage of Ackerman, which is set forth below:

More recently, salient pole motor designs are finding application in both brushless permanent magnet motors and switched reluctance motors. Col 1, lines 11-13. ...

As will be appreciated by those skilled in the art, the term slot fill, for the purpose of this Specification, means the area of the slot available for the winding divided into the area occupied by the number of turns of the winding in that slot. Induction motor slot fills in the vicinity of slot fills approaching 70% are common. Slot fills for salient pole windings commonly are 40%-50%.

Ackerman indicates that slot fills of 70% for induction motors are common. The present invention, however, is not an induction motor. Ackerman teaches that induction motors use a different winding technique than salient pole machines. Col. 1, line 56-65.

The next sentence of Ackerman clearly and unequivocally states that salient pole stators for switched reluctance machines have slot fills of 40-50%. These salient pole

machines use winding techniques that are described at Col 1, line 66 to Col. 2, line 5. Ackerman goes on to describe transfer winding techniques, which were described by Applicants in the Background of the Invention. Applicant's Specification at paragraph 11. Transfer winding methods are limited to slot fills up to about 60-65%. Transfer winding techniques also tend to leave excess winding or loops at axial ends of the stator poles, which are not present when segmented stators and precise winding techniques are used.

Applicants traverse the rejection of Claim 6 under 35 U.S.C. § 103 as being anticipated by Kliman et al. in view of Applicant's Admitted Prior Art (APA) and further in view of Nishiyama et al, McCann, Ackermann and Trago et al.

Applicants incorporate the arguments set forth in the Response Filed on August 22, 2003.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

MDW/sls

By: Michael D. Wiggins
Michael D. Wiggins,
Reg. No. 34,754